

# headandneck 5000

**Testing a longitudinal predictor-process-outcome model of clinical and well-being outcomes for patients with head and neck cancer**

**Principle Applicant:** Sarah Baker

**Co-Applicants:** Professor Keith Hunter

## Scientific Outline

### Summary

There has been a great deal of research investigating the clinical and quality of life outcomes for patients with head and neck cancer. Many of these studies have explored key predictors – such as, smoking, treatment type, HPV status - of poor outcomes (e.g. cancer survival, tumour recurrence, poor quality of life, depression). The head and neck 5000 resource allows, for the first time, the longitudinal testing of multiple potential predictors (clinical, socio-demographic) and their association with clinical, as well as well-being outcomes, in the same cohort over a 12-month time-frame. In addition, given that data was also collected at 4 months, using appropriate statistical modelling techniques, we can investigate process variables. These are factors – such as, fear of recurrence, treatment, optimism - that may mediate the influence of key predictors (e.g. primary diagnosis) on outcomes.

Structural equation modelling (SEM) is an advanced statistical technique that allows for the simultaneous testing of direct and indirect (mediated) relationships between multiple factors over time. SEM is currently the best method for testing *a priori* conceptual models, and has been used extensively by the principal applicant in relation to oral health (e.g. Baker, 2007, 2009; Baker et al., 2007, 2008, 2010).

The aim of this study is to test a longitudinal predictor-process-outcome model to predict better clinical and well-being outcomes for patients with head and neck cancer.

### Keywords

Statistical modelling; well-being; quality of life; mediators; psychological model